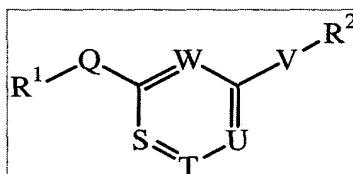


CLAIMS

What is claimed is:

5

1. A compound of Formula Ia



Ia

or a pharmaceutically acceptable salt thereof,

wherein:

10

R¹ and R² independently are selected from:

Substituted C₁-C₆ alkyl;

Substituted C₂-C₆ alkenyl;

Substituted C₂-C₆ alkynyl;

Substituted C₃-C₆ cycloalkyl;

15

Substituted C₃-C₆ cycloalkyl-(C₁-C₆ alkylenyl);

Substituted 3- to 6-membered heterocycloalkyl;

Substituted 3- to 6-membered heterocycloalkyl-(C₁-C₆ alkylenyl);

Phenyl-(C₁-C₆ alkylenyl);

Substituted phenyl-(C₁-C₆ alkylenyl);

20

5-, 6-, 9-, and 10-membered heteroaryl-(C₁-C₆ alkylenyl);

Substituted 5-, 6-, 9-, and 10-membered heteroaryl-(C₁-C₆ alkylenyl);

Phenyl;

Substituted phenyl;

5-, 6-, 9-, and 10-membered heteroaryl;

25

Substituted 5-, 6-, 9-, and 10-membered heteroaryl;

R³O-(C₁-C₆ alkylenyl);

Substituted R³O-(C₁-C₆ alkylenyl);

Phenyl;

Substituted phenyl;

30

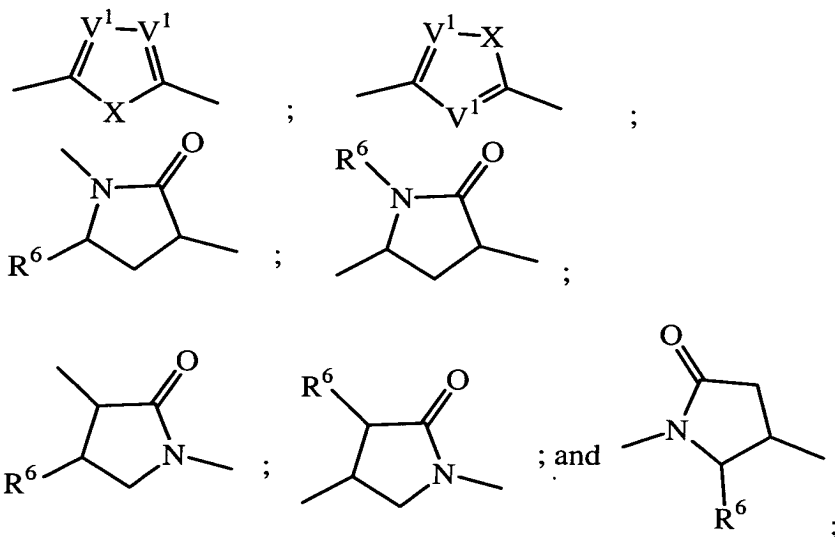
Naphthyl;

Substituted naphthyl;

- 5- or 6-membered heteroaryl;
Substituted 5- or 6-membered heteroaryl;
8- to 10-membered heterobiaryl;
Substituted 8- to 10-membered heterobiaryl;
5 Phenyl-O-(C₁-C₈ alkylene);
Substituted phenyl-O-(C₁-C₈ alkylene);
Phenyl-S-(C₁-C₈ alkylene);
Substituted phenyl-S-(C₁-C₈ alkylene);
Phenyl-S(O)-(C₁-C₈ alkylene);
10 Substituted phenyl-S(O)-(C₁-C₈ alkylene);
Phenyl-S(O)₂-(C₁-C₈ alkylene); and
Substituted phenyl-S(O)₂-(C₁-C₈ alkylene);
Each R³ independently is selected from:
Substituted C₁-C₆ alkyl;
15 Substituted C₃-C₆ cycloalkyl;
Phenyl-(C₁-C₆ alkylene);
Substituted phenyl-(C₁-C₆ alkylene);
5-, 6-, 9-, and 10-membered heteroaryl-(C₁-C₆ alkylene);
Substituted 5-, 6-, 9-, and 10-membered heteroaryl-(C₁-C₆ alkylene);
20 Phenyl;
Substituted phenyl;
5-, 6-, 9-, and 10-membered heteroaryl;
Substituted 5-, 6-, 9-, and 10-membered heteroaryl;
S, T, U, and W each are C-R⁴; or
25 One of S, T, U, and W is N and the other three of S, T, U, and W are C-R⁴; or
Two of S, T, U, and W are N and the other two of S, T, U, and W are C-R⁴; or
T is C-R⁴ and S, U, and W are each N; or
U is C-R⁴ and S, T, and W are each N; or
S is C-R⁴ and T, U, and W are each N;
30 Each R⁴ independently is selected from: H, F, CH₃, CF₃, C(O)H, CN, HO, CH₃O,
C(F)H₂O, C(H)F₂O, and CF₃O;
V is a 5-membered heteroarylene; and

Q is selected from: OCH_2 , $\text{N(R}^6\text{)CH}_2$, OC(O) , $\text{CH(R}^6\text{)C(O)}$, $\text{OC(NR}^6\text{)}$,
 $\text{CH(R}^6\text{)C(NR}^6\text{)}$, $\text{N(R}^6\text{)C(O)}$, $\text{N(R}^6\text{)C(S)}$, $\text{N(R}^6\text{)C(NR}^6\text{)}$, $\text{N(R}^6\text{)CH}_2$, SC(O) ,
 $\text{CH(R}^6\text{)C(S)}$, $\text{SC(NR}^6\text{)}$, trans-(H)C=C(H) , cis-(H)C=C(H) , $\text{C}\equiv\text{C}$, $\text{CH}_2\text{C}\equiv\text{C}$,
 $\text{C}\equiv\text{CCH}_2$, $\text{CF}_2\text{C}\equiv\text{C}$, $\text{C}\equiv\text{CCF}_2$,

5

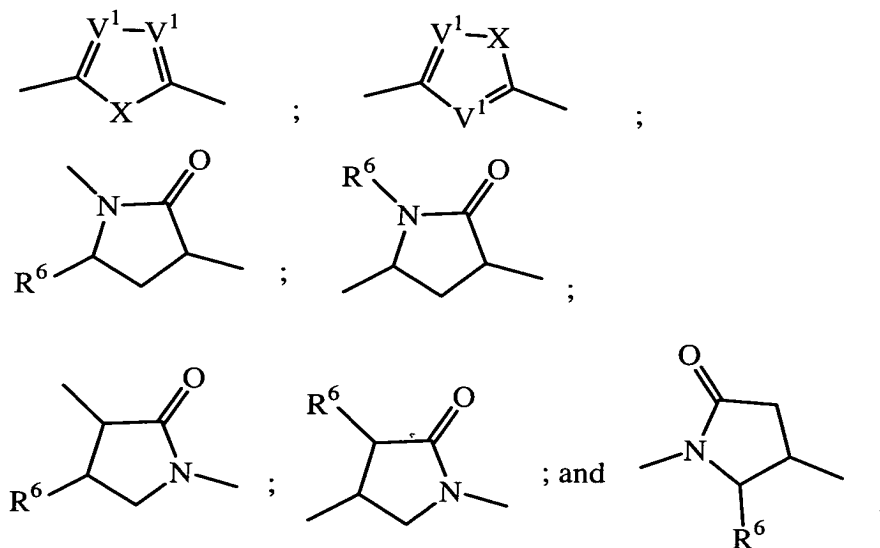


or

V is C(O)O , C(S)O , $\text{C(O)N(R}^5\text{)}$, or $\text{C(S)N(R}^5\text{)}$; and

10

Q is selected from: OCH_2 , $\text{N(R}^6\text{)CH}_2$, $\text{CH(R}^6\text{)C(O)}$, $\text{OC(NR}^6\text{)}$, $\text{CH(R}^6\text{)C(NR}^6\text{)}$,
 $\text{N(R}^6\text{)C(NR}^6\text{)}$, $\text{N(R}^6\text{)CH}_2$, $\text{CH(R}^6\text{)C(S)}$, $\text{SC(NR}^6\text{)}$, trans-(H)C=C(H) , cis-
 (H)C=C(H) , $\text{C}\equiv\text{CCH}_2$, $\text{C}\equiv\text{CCF}_2$,



R^5 is H or $\text{C}_1\text{-C}_6$ alkyl;

R^6 is H, C_1 - C_6 alkyl, C_3 - C_6 cycloalkyl; 3- to 6-membered heterocycloalkyl; phenyl; benzyl; or 5- or 6-membered heteroaryl;

X is O, S, N(H), or N(C_1 - C_6 alkyl);

Each V^1 is independently C(H) or N;

5 Each “substituted” group contains from 1 to 4 substituents, each independently on a carbon or nitrogen atom, independently selected from:

C_1 - C_6 alkyl;

C_2 - C_6 alkenyl;

C_2 - C_6 alkynyl;

10 C_3 - C_6 cycloalkyl;

C_3 - C_6 cycloalkylmethyl;

Phenyl;

Phenylmethyl;

3- to 6-membered heterocycloalkyl;

15 3- to 6-membered heterocycloalkylmethyl;

cyano;

CF_3 ;

(C_1 - C_6 alkyl)-OC(O);

HOCH₂;

20 (C_1 - C_6 alkyl)-OCH₂;

H₂NCH₂;

(C_1 - C_6 alkyl)-N(H)CH₂;

(C_1 - C_6 alkyl)₂-NCH₂;

N(H)₂C(O);

25 (C_1 - C_6 alkyl)-N(H)C(O);

(C_1 - C_6 alkyl)₂-NC(O);

N(H)₂C(O)N(H);

(C_1 - C_6 alkyl)-N(H)C(O)N(H);

N(H)₂C(O)N(C_1 - C_6 alkyl);

30 (C_1 - C_6 alkyl)-N(H)C(O)N(C_1 - C_6 alkyl);

(C_1 - C_6 alkyl)₂-NC(O)N(H);

(C_1 - C_6 alkyl)₂-NC(O)N(C_1 - C_6 alkyl);

- $N(H)_2C(O)O$;
 $(C_1-C_6 \text{ alkyl})-N(H)C(O)O$;
 $(C_1-C_6 \text{ alkyl})_2-NC(O)O$;
 HO ;
5 $(C_1-C_6 \text{ alkyl})-O$;
 CF_3O ;
 $CF_2(H)O$;
 $CF(H)_2O$;
 H_2N ;
10 $(C_1-C_6 \text{ alkyl})-N(H)$;
 $(C_1-C_6 \text{ alkyl})_2-N$;
 O_2N ;
 $(C_1-C_6 \text{ alkyl})-S$;
 $(C_1-C_6 \text{ alkyl})-S(O)$;
15 $(C_1-C_6 \text{ alkyl})-S(O)_2$;
 $(C_1-C_6 \text{ alkyl})_2-NS(O)_2$;
 $(C_1-C_6 \text{ alkyl})-S(O)_2-N(H)-C(O)-(C_1-C_8 \text{ alkylenyl})_m$;
 $(C_1-C_6 \text{ alkyl})-C(O)-N(H)-S(O)_2-(C_1-C_8 \text{ alkylenyl})_m$;
 $HO-C(=O)-(C_1-C_3 \text{ alkylenyl})$;
20 $HO-C(=O)-(C_3-C_6 \text{ cycloalkylen-1-yl})$;
Phenyl substituted with 1 or two substituents selected from F, Cl, OH,
 OCH_3 , $C\equiv N$, $COOH$, $COOCH_3$, $C(=O)CH_3$, and CF_3 ;
5- or 6-membered heteroaryl;
5- or 6-membered heteroaryl substituted with 1 substituent selected from
25 F, Cl, OH, OCH_3 , $C\equiv N$, $COOH$, $COOCH_3$, $C(=O)CH_3$, and CF_3 ;
 SO_3H ;
 PO_3H_2 ; and
 $R^7R^{7a}(J)_m-N(H)CH_2$, wherein m is an integer of 0 or 1; J is $N-C(=O)$; and
 R^7 and R^{7a} are independently selected from hydrogen, C_1-C_6 alkyl, $(C_1-C_6$
30 $\text{alkyl})-C(=O)$, C_1-C_6 alkyl substituted with 1 or 2 OH, C_1-C_3 alkyl-O-(C_1-C_3
 $\text{alkylenyl})$, 5- or 6-membered heteroaryl-C(=O), and $(C_1-C_6 \text{ alkyl})-S(O)_2$; or R^7 and R^{7a} may be taken together with the nitrogen atom to

which they are both bonded to form (i) a 3- to 6-membered heterocycloalkyl, optionally substituted with a CH_3 or oxo (i.e., $=\text{O}$), containing the nitrogen atom, 0 or 1 O or S atoms, and carbon atoms or (ii) a 5- or 6-membered heteroaryl containing the nitrogen atom, 0 or 1 additional N atom, and carbon atoms;

5

wherein each substituent on a carbon atom may further be independently selected from:

Halo;

HO_2C ; and

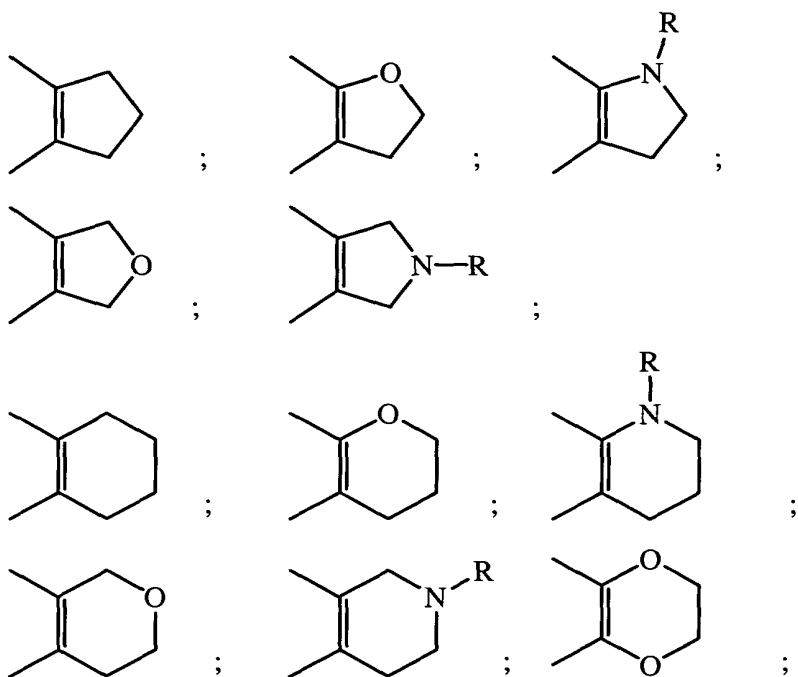
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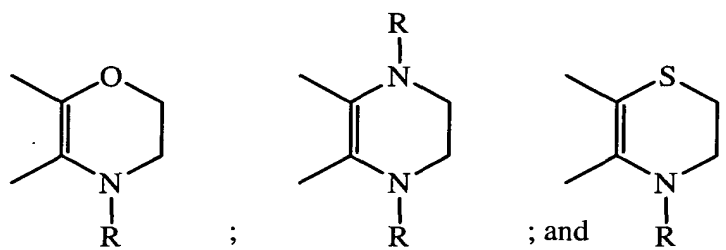
OCH_2O , wherein each O is bonded to adjacent carbon atoms to form a 5-membered ring;

wherein 2 substituents may be taken together with a carbon atom to which they are both bonded to form the group $\text{C}=\text{O}$;

wherein two adjacent, substantially sp^2 carbon atoms may be taken together with a diradical substituent to form a cyclic diradical selected from:

15





R is H or C₁-C₆ alkyl;

m is an integer of 0 or 1;

wherein each 5-membered heteroarylenyl independently is a 5-membered ring

5 containing carbon atoms and from 1 to 4 heteroatoms selected from 1 O, 1 S, 1 NH, 1 N(C₁-C₆ alkyl), and 4 N, wherein the O and S atoms are not both present, and wherein the heteroarylenyl may optionally be unsubstituted or substituted with 1 substituent selected from fluoro, methyl, hydroxy, trifluoromethyl, cyano, and acetyl;

10 wherein each heterocycloalkyl is a ring that contains carbon atoms and 1 or 2 heteroatoms independently selected from 2 O, 1 S, 1 S(O), 1 S(O)₂, 1 N, 2 N(H), and 2 N(C₁-C₆ alkyl), and wherein when two O atoms or one O atom and one S atom are present, the two O atoms or one O atom and one S atom are not bonded to each other, and wherein the ring is saturated or

15 optionally contains one carbon-carbon or carbon-nitrogen double bond;

wherein each 5-membered heteroaryl contains carbon atoms and from 1 to 4 heteroatoms independently selected from 1 O, 1 S, 1 N(H), 1 N(C₁-C₆ alkyl), and 4 N, and each 6-membered heteroaryl contains carbon atoms and 1 or 2 heteroatoms independently selected from N, N(H), and N(C₁-C₆ alkyl), and 5- and 6-membered heteroaryl are monocyclic rings; and 9- and 10-membered heteroaryl are 6,5-fused and 6,6-fused bicyclic rings, respectively, wherein at least 1 of the 2 fused rings of a bicyclic ring is aromatic, and wherein when the O and S atoms both are present, the O and S atoms are not bonded to each other;

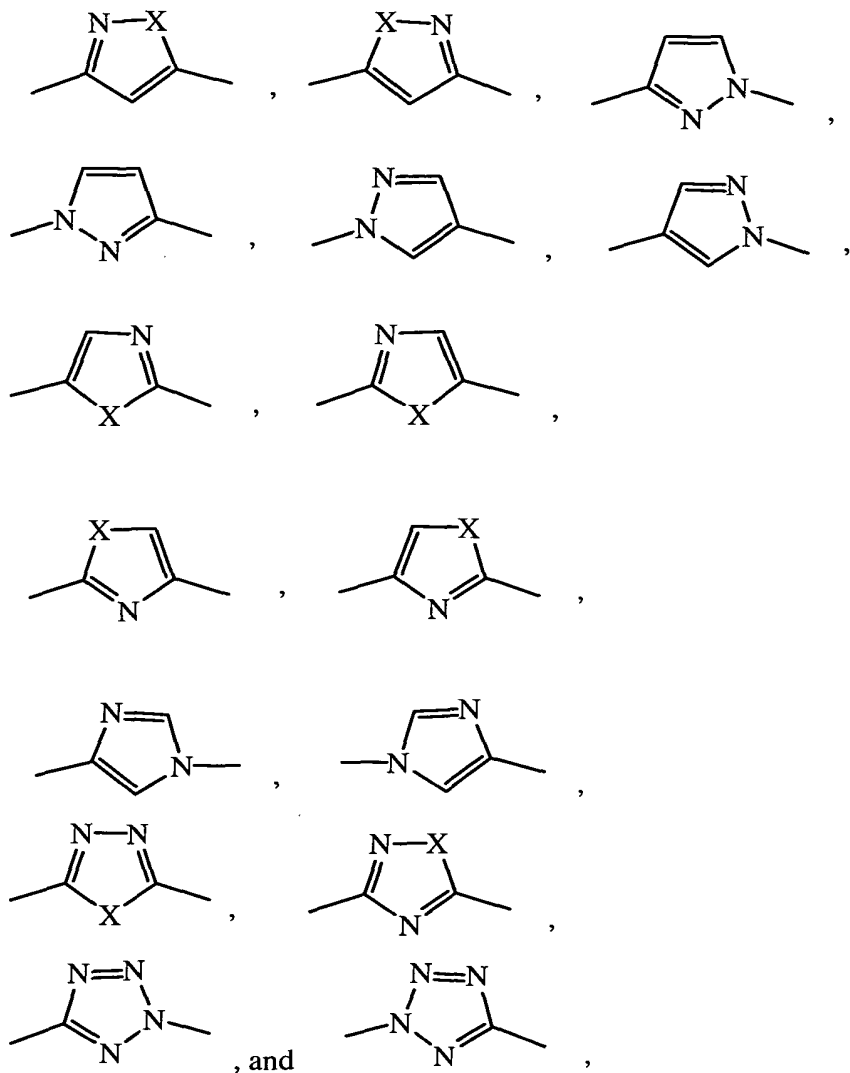
20 wherein with any (C₁-C₆ alkyl)₂-N group, the C₁-C₆ alkyl groups may be optionally taken together with the nitrogen atom to which they are attached to form a 5- or 6-membered heterocycloalkyl; and

25 wherein each group and each substituent recited above is independently selected.

2. The compound according to Claim 1, or a pharmaceutically acceptable salt thereof, wherein S, T, U, and W are each CH

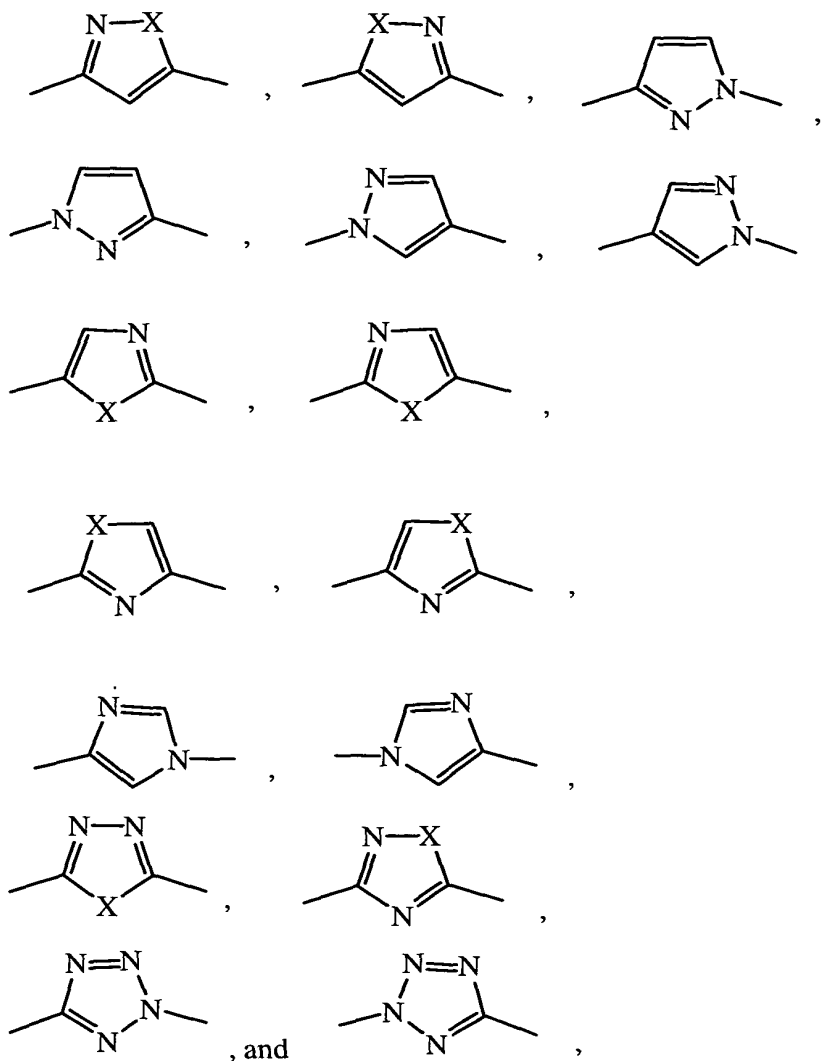
3. The compound according to Claim 1, or a pharmaceutically acceptable salt thereof, wherein one of S, T, U, and W is N and the other three of S, T, U, and W are each CH

4. The compound according to Claim 2, wherein V is selected from the groups:



wherein X is O, S, or N(H).

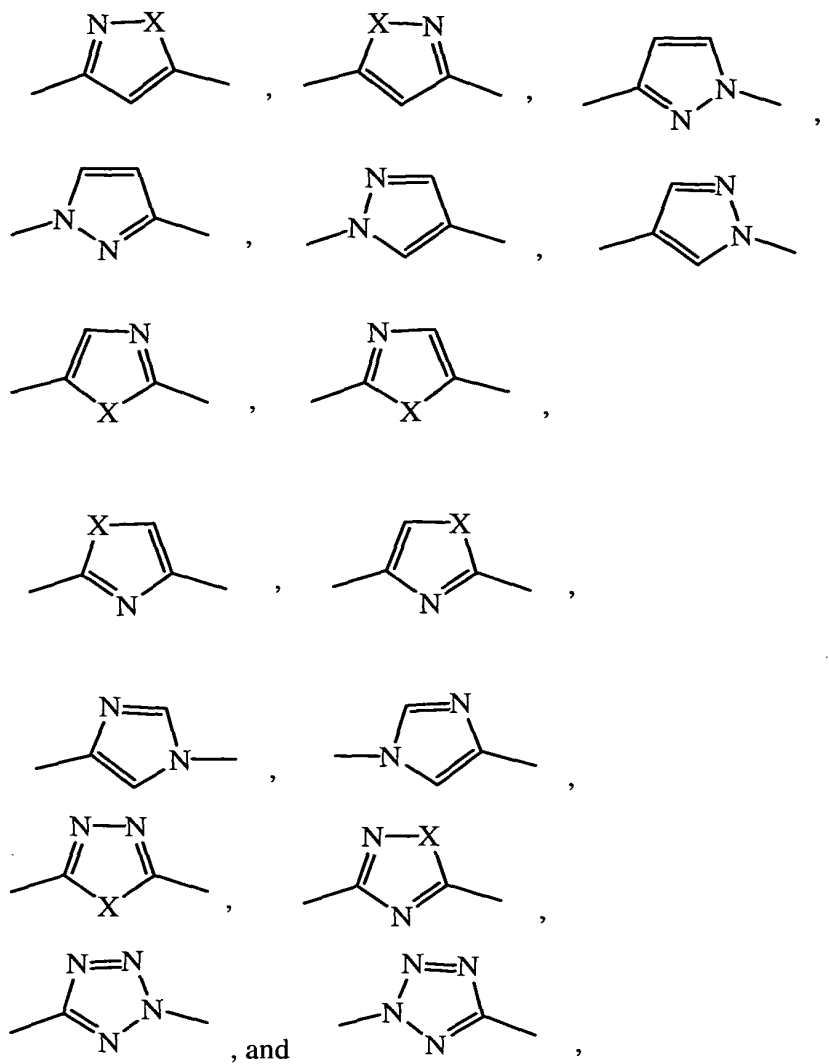
5. The compound according to Claim 3, wherein V is selected from the groups:



wherein X is O, S, or N(H).

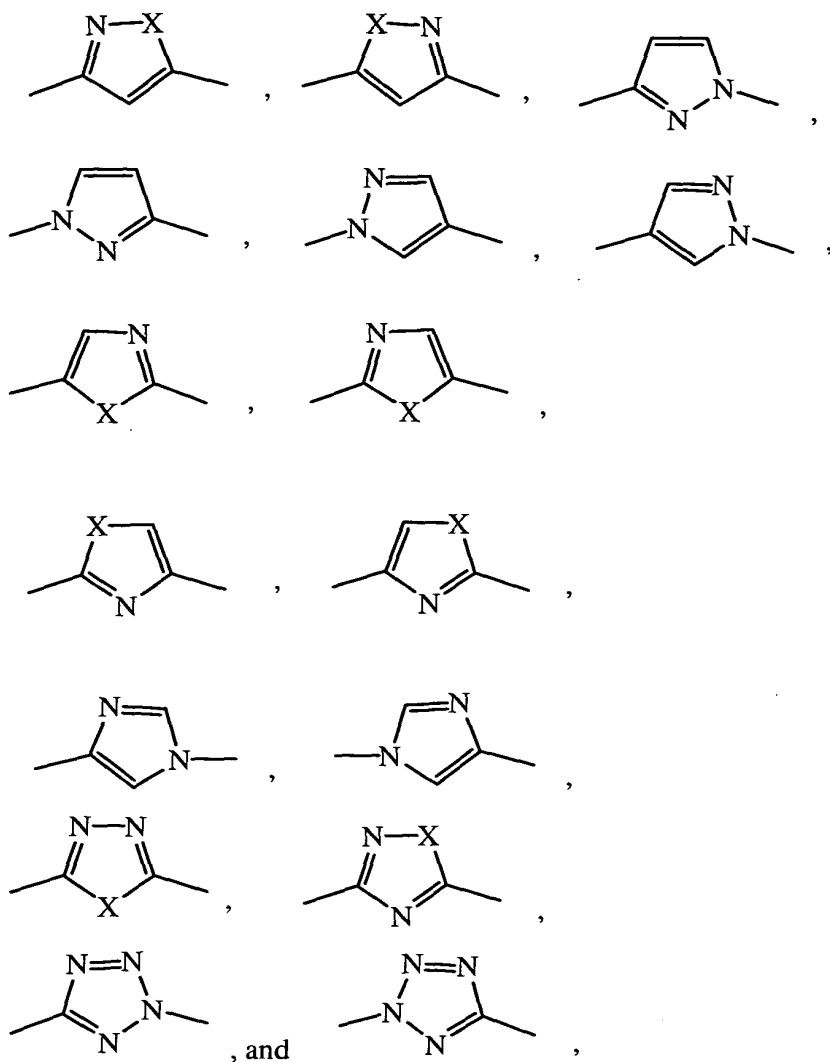
6. The compound according to Claim 4, or a pharmaceutically acceptable salt thereof, wherein Q is $C\equiv C$ or $N(R^6)C(O)$.
7. The compound according to Claim 5, or a pharmaceutically acceptable salt thereof, wherein Q is $C\equiv C$ or $N(R^6)C(O)$.

8. The compound according to Claim 4, or a pharmaceutically acceptable salt thereof, wherein Q is selected from:



wherein X is O, S, or N(H).

9. The compound according to Claim 5, or a pharmaceutically acceptable salt thereof, wherein Q is selected from:



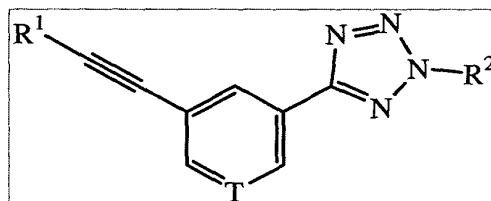
5 wherein X is O, S, or N(H).

10. The compound according to any one of Claims 1 to 9, or a pharmaceutically acceptable salt thereof, wherein each of R¹ and R² are independently selected from:

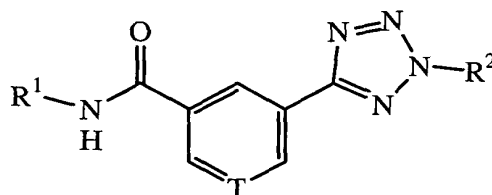
- 10
- Substituted C₃-C₆ cycloalkyl-(C₁-C₆ alkylenyl);
 - Phenyl-(C₁-C₆ alkylenyl);
 - Substituted phenyl-(C₁-C₆ alkylenyl);
 - 5-, 6-, 9-, and 10-membered heteroaryl-(C₁-C₆ alkylenyl); and
 - Substituted 5-, 6-, 9-, and 10-membered heteroaryl-(C₁-C₆ alkylenyl);

wherein each heteroaryl contains carbon atoms and from 1 to 4 heteroatoms independently selected from 1 O, 1 S, 1 N(H), 1 N(C₁-C₆ alkyl), and 4 N, and 5- and 6-membered heteroaryl are monocyclic rings and 9- and 10-membered heteroaryl are 6,5-fused and 6,6-fused bicyclic rings, respectively, wherein at least 1 of the 2 fused rings of a bicyclic ring is aromatic, and wherein when the O and S atoms both are present, the O and S atoms are not bonded to each other; and wherein each group and each substituent is independently selected.

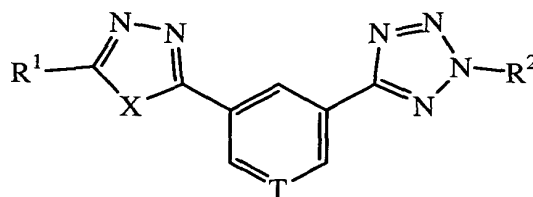
11. The compound according to Claim 1 of Formulas IIa, III, IV, V, VI, VII, or VIII



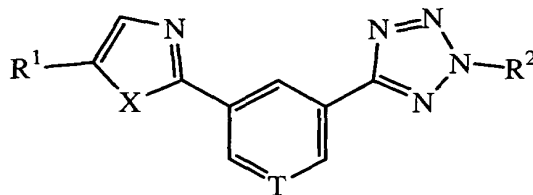
IIa



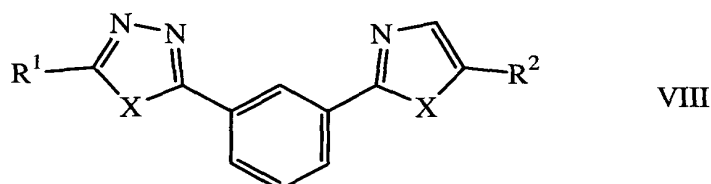
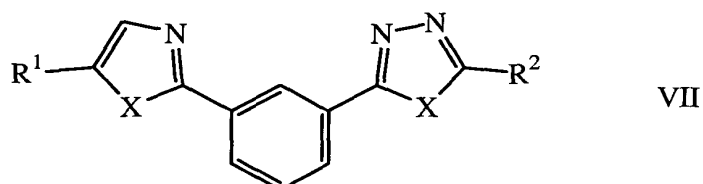
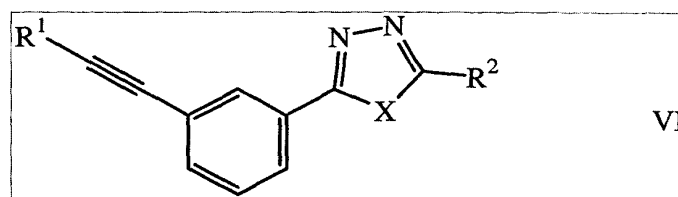
III



IV



V



5

or a pharmaceutically acceptable salt thereof,

wherein T is CH or N, X is O, S, or N(H), and each of R¹ and R² are independently selected from:

Substituted C₃-C₆ cycloalkyl-(C₁-C₆ alkylenyl);

10

Phenyl-(C₁-C₆ alkylenyl);

Substituted phenyl-(C₁-C₆ alkylenyl);

5-, 6-, 9-, and 10-membered heteroaryl-(C₁-C₆ alkylenyl); and

Substituted 5-, 6-, 9-, and 10-membered heteroaryl-(C₁-C₆ alkylenyl);

wherein each heteroaryl contains carbon atoms and from 1 to 4

15

heteroatoms independently selected from 1 O, 1 S, 1 N(H), 1 N(C₁-C₆ alkyl), and 4 N, and 5- and 6-membered heteroaryl are

monocyclic rings and 9- and 10-membered heteroaryl are 6,5-fused and 6,6-fused bicyclic rings, respectively, wherein at least 1 of the

2 fused rings of a bicyclic ring is aromatic, and wherein when the O and S atoms both are present, the O and S atoms are not bonded to each other; and

20

wherein each group and each substituent is independently selected.

12. The compound according to Claim 1 selected from:

4-(5-{3-[3-(4-Fluoro-phenyl)-prop-1-ynyl]-phenyl}-tetrazol-2-ylmethyl)-benzoic acid;

4-(5-{3-[3-(4-Methoxy-phenyl)-prop-1-ynyl]-pyridin-3-yl}-tetrazol-2-ylmethyl)-benzoic acid;

[4-(5-{3-[3-(4-Fluoro-phenyl)-prop-1-ynyl]-phenyl}-tetrazol-2-ylmethyl)-phenyl]-acetic acid;

4-(5-{3-[3-(4-Fluoro-phenyl)-prop-1-ynyl]-phenyl}-[1,3,4]thiadiazol-2-ylmethyl)-benzoic acid;

4-{5-[2-(4-Fluoro-benzylcarbamoyl)-pyridin-4-yl]-tetrazol-2-ylmethyl}-benzoic acid; and

4-(5-{3-[3-(4-Fluoro-phenyl)-prop-1-ynyl]-phenyl}-tetrazol-2-ylmethyl)-cyclohexanecarboxylic acid;

1-[4-(5-{3-[3-(4-Fluoro-phenyl)-prop-1-ynyl]-phenyl}-tetrazol-2-ylmethyl)-phenyl]-cyclopropanecarboxylic acid;

3-(5-{3-[3-(4-Fluoro-phenyl)-prop-1-ynyl]-phenyl}-tetrazol-2-ylmethyl)-benzoic acid; and

4-{5-[2-(4-Fluoro-benzylcarbamoyl)-6-methyl-pyridin-4-yl]-tetrazol-2-ylmethyl}-benzoic acid; or

a pharmaceutically acceptable salt thereof.

13. A pharmaceutical composition, comprising a compound according to Claim 1, or a pharmaceutically acceptable salt thereof, admixed with a pharmaceutically acceptable carrier, excipient, or diluent.

14. The pharmaceutical composition according to Claim 13, comprising a compound according to Claim 12, or a pharmaceutically acceptable salt thereof, admixed with a pharmaceutically acceptable carrier, excipient, or diluent.

15. A method for treating osteoarthritis or rheumatoid arthritis, comprising administering to a patient suffering from osteoarthritis or rheumatoid arthritis a nontoxic effective amount of a compound according to Claim 1, or a pharmaceutically acceptable salt thereof.

16. The method according to Claim 15, wherein the compound administered is a compound according to Claim 12, or a pharmaceutically acceptable salt thereof.